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ABSTRACT

This document is comprised of two reports, both dealing with methods for using census data. The first report discusses the Los Angeles Community College Data Project, undertaken at Los Angeles City College, in terms of its goals, organization, and procedures. The project was designed to: (1) provide the Los Angeles City Planning Department with a large sample for administering an annual census questionnaire, and (2) provide the Los Angeles Community College District with the necessary tools for understanding socio-economic characteristics and needs of its community and students. The second report includes techniques of using census information to efficiently conduct institutional research based on large populations. The technical tools which were developed for use with census data can also be used to assign geographic codes to individual records and to produce computer drawn maps. These tools can provide the researcher with useful information about his clients pertaining to federal fund raising, curriculum design, recruitment, and community impact. The major steps to establish this system for use in administration, institutional research, school facility and program planning, and evaluation are also presented. (RN)

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[USE OF CENSUS DATA IN A COOPERATIVE PROJECT BETWEEN THE LOS ANGELES DEPARTMENT OF CITY PLANNING AND THE LOS ANGELES COMMUNITY COLLEGE DISTRICT TO AID THE COMMUNITY COLLEGE RESEARCHER AND DECISION MAKER]

By

Albert J. Landini

1972

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UNIVERSITY OF CALIF.
LOS ANGELES

OCT 12 1972

CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION

STATUS REPORT

Los Angeles
Community Colleges Data Project

by

Albert J. Landini

August 1972
Technical Services Unit
Los Angeles Department of City Planning

STATUS REPORT

Los Angeles
Community Colleges Data Project*

During the month of June 1972, a plan for updating certain selected 1970 Census data items was advanced to representatives of the Los Angeles City Planning Department and the Los Angeles Community College District. As envisioned in that plan, the project would have two major outcomes: (1) it would provide the Los Angeles City Planning Department with a large sampling frame for administering an annual questionnaire dealing with census items; and (2) it would provide the Los Angeles Community College District with the necessary technical tools for understanding the socio-economic characteristics, as well as the needs of their community and student bodies in greater detail than ever before. The purpose of this Status Report is to provide working documentation of the project to-date.

I. Introduction

At a May 1972, conference of the California Junior College Association (CJCA) Research and Development Committee State Conference, it became apparent that there existed a need for uniform population information across all junior colleges. In fact, many of the schools were already collecting this information independently and in various forms. Questions

*This report was verbally presented at the June 26, 1972 meeting of the Southern California Institutional Research Group (SCIRG).

directed toward the involved data gathering researchers revealed that the instruments being used were quite similar to the mail-out questionnaire used in the 1970 Census. In fact, many times their efforts were either redundant or incompatible, thus hindering a more rational approach to institutional research.

When the situation in the immediate Los Angeles area was investigated it was found that the boundaries of the Los Angeles Community College District, (consisting of eight community colleges and a student population of approximately 100,000), covered and extended beyond the boundaries of the City of Los Angeles. All of these eight Los Angeles colleges had a universal "open-door" policy, admitting any student 18 years of age and older, and it had been often stated that their student bodies were the most heterogeneous of any segment of local academia. Thus, to a large degree, they escaped the systematic bias associated with the socio-economic characteristics of resident student bodies of institutions of higher education.

Community college students, therefore, offered the largest "captured" sample population of any social institution within Los Angeles County who were capable of maturely answering a census-like questionnaire. This then provided an organization like the Los Angeles City Planning Department with a potentially ideal situation for collecting large amounts of "clean" data for input to its population estimate and housing inventory procedures, or for use in other market analysis like activities.

II. Project Effort to Date

At the June 1972 meeting of the Southern California Institutional Research Group (SCIRG) the researchers from various schools in the Los Angeles Community College District discussed ways in which data could be collected from various geographical areas and arranged in a standard format. Some of the difficulties involved in handling large data files were also brought up and it was suggested that the group band together to develop a common project.

At the meeting that day it was decided that the group be referred to as the Association of Los Angeles Community College Institutional Researchers (ALACCIR). They asked Dr. Arthur N. Cherdack of East Los Angeles College to preside over their Association. Membership was opened to all members of the Los Angeles Community College District faculty and staff, and it was agreed that an ideal first project might be the construction of a socio-economic data base common to all schools, and that paralleled certain elements of the 1970 Census.

In July 1972, the idea for developing a scheme to update selected 1970 Census items was formally advanced to the City of Los Angeles Planning Department. At the same time Dr. Cherdack released five publications to College District researchers describing the types of data available to them once the proposed project had been completed. Those publications were:

Figure 1.

(1) The Catalog of Information Sources for the City of Los Angeles - Community Analysis Bureau

(1a) Volume One - Catalog Production Method.

(1b) Volume Two - Users Manual.

(1c) Volume Three - Data Dictionary.

(2) City of Los Angeles - Community Analysis Bureau, A Comprehensive and Efficient Method of Assessing Organizational Activity: The Community Program Information System (CPIS).

(3) City of Los Angeles - Community Analysis Bureau, "Los Angeles Scientific Urban Matrix" (map packet).

Those College District staff members receiving copies of the publications were:

Figure 2.

ALACCIR MEMBERSHIP

Dr. Ben K. Gold
Los Angeles City College

Mr. James Lagerstrom
Pierce College

Mr. Robert Cook
Los Angeles Southwest College

Dr. Fred Machetanz
Los Angeles Valley College

Mr. Richard Noble
Los Angeles Harbor College

Dr. Norman Garret
West Los Angeles College

Mr. Charles Davis
Los Angeles Trade Technical College

(Dr. Arthur Cherdack)
East Los Angeles City College

This group of institutional researchers was also considered to be the core membership of ALACCIR.

Task organization. It became apparent at the projects outset that there would be two on-going phases, conducted simultaneously and inter-related. For sake of discussion they can be referred to as the pilot project and the over all project.

The need for conducting these two phases simultaneously was the result of having to prepare and test the necessary software for developing a College District-wide data base and establishing the degree of group equivalence existing between the College District student body and City-wide population. Software development and implementation was centered on the following.

Figure 3.

Initial Software Programs and Data Files Needed to be Secured

1. Los Angeles County ACG-DIME File
2. ADMATCH DOS/OS Version
3. SYMAP Mapping Program
4. Los Angeles County Census Tract Coordinate File
5. Los Angeles Community College District Census Tract File
6. Los Angeles Community College District Basic Student Data File (with house addresses)
7. Los Angeles County 1970 Census Tapes

Thus, the securing and operationalizing of these data files and programs was the critical first phase necessary before either the pilot project or the over all project could be undertaken. Five of the seven program or files listed here were obtained with relative ease through either the Los Angeles City Planning Department, the Data Service Bureau, or the Los Angeles Regional Planning Commission. Two data files were non-existent: (1) a Los Angeles Community College District Census Tract File; and (2) a Basic Student Data File.

Investigation revealed that the Census Tract File could be constructed relatively inexpensively, but that the Basic Student Data File (in machine readable form) would not be ready until after Fall 1972 registration was completed.

Pilot project. The pilot project had the following three goals as its purpose: (1) A testing of procedures for the over all project; (2) The establishment of the degree of equivalence existing between groups, and (3) The presentation of a useful report to College District and Planning Department decision makers.

Los Angeles City College (LACC) was approached as a possible test site for the pilot project. The purpose of the project was presented during discussions with Dr. Kaufman, President; Mrs. Hope Holcomb, Dean of College Development; and Dr. Ben Gold, Director of Research, and it was decided that LACC

would be an appropriate study area for the pilot project.

It was also of critical importance that LACC had a machine readable record of their Spring 1970 Basic Student File (with house addresses) for use in the test. More importantly, this File was produced from the registration forms that recently were adopted as the District-wide standard. Therefore, all experience gained in the pilot project would be directly applicable to the later over all project efforts.

The first step in the pilot project was to attempt to ADMATCH the LACC Basic Student Data File using the Census Bureau ADMATCH Program and Los Angeles County DIME File. This Program and File were developed as part of the 1970 Census with the purpose of being able to directly relate individual house address to the census tract number of the particular census tract in which they are located. However, the Los Angeles County DIME File had not yet been released, so a "mini-test" was done using the 1960 City Mental Health File which had a successful (98%) match rate, indicating an extremely "clean" data file.

This was of particular significance to our project since we then knew that as researchers we would be able to automatically aggregate students for a particular school, by census tract. With this ability, relatively inexpensive maps could be created displaying the census tract in which students resided who attended a particular school. It also allowed data on students to be compared

with census data or other data collected at the census tract level.

At this time the test data for LACC is presently being prepared for ADMATCHing with the DIME File when it is released, and the necessary programs to aggregate data by tract are now being written and tested. Some preliminary SYMAPs (computer drawn maps) have been produced and the necessary reference data needed to produce comprehensive District-wide maps are being prepared.

At this point in the pilot project it was realized that no census tract file existed for the College District. That is, there was no written or cartographic record of what census tracts were within the College District. Without such a File it was impossible to procede further, and it was equally impossible for the College District to pursue any efficient investigation of socio-economic characteristics of their mandated community on a large scale.

When presented with this situation, Mr. Brick, Business Manager, of the College District recognized the importance of such a File and instructed his staff to transfer the College District boundary from survey information found in the County Assessor's Map Books to a County Census Tract map. That map is an all important tool in the over all project and reproduceable copies are now available at both the Los Angeles City Planning Department and Community College District offices. Currently

a listing is being prepared of all census tracts falling within the District as well as a coordinate file of the District outline for inputting to the SYMAP program.

Concurrently, Dr. Gold of LACC was able to supply a report prepared by him, of student characteristics for LACC, Spring 1970, this plus a count of students by tract that will be compiled from the Basic Student File, will allow appropriate tests for group equivalence to be conducted. Additionally the College District was able to supply a gross count of students by race-by sex for the entire District. This is presently being compared to over all City totals for similar classifications.

The final report documenting the pilot project will be prepared and presented to the decision makers. This report will revolve around two data sources: The Basic Student Data File, and selected census variables. Computer maps will be produced for the first time illustrating, at a fine geographical level, where LACC students are coming from within the College District, and identifying their socio-economic characteristics in terms of data items associated with the census tract of residence.

Over all project. The over all project has been similar to the pilot project in that it will be necessary to secure the same Programs and Files (see Figure 3). From this point on, the expended effort has differed from the pilot project in that the over all project activities were concerned with the following:

Figure 4.

Overall Project Activities

1. Designing appropriate group equivalence tests.
2. Determining selected census variables for updating.
3. Designing census update questionnaires.
4. Arranging for administration of the update instrument.
5. Coordinating individual College and ALACCIR activities.
6. Designing preliminary Overall Project report.
7. Designing returned data cross tabulations.
8. Designing final overall project report.

Little has been done thus far toward actually completing any of the steps listed. In fact, the list itself is incomplete. But with a hoped for target date of Spring 1973 for administration of the census update instrument or perhaps with a more realistic date of Spring 1974, the project is on schedule.

Thus the most critical element to the City Planning Department at this time is the establishment of group equivalence, prior to continuing the project beyond the pilot stage. Should group equivalence not exist on the selected variables, then abandonment of the overall project should be considered. However, the Planning Department will have gained considerable experience in investigating the possibilities of updating census data, while exposing another local governmental agency to the need for developing uniform and areally compatible data files.

HOW A CENSUS ORIENTED INFORMATION SYSTEM CAN HELP THE COMMUNITY COLLEGE RESEARCHER AND DECISION MAKER

by

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May, 1972

The 1970 Census of the United States was the most comprehensive collection of information about Americans ever undertaken. It truly produced a wealth of data about our country's population and housing. More importantly, this information, to a larger degree than ever before, has been made available for every small geographical areas--sometimes as small as the individual city block.

In addition to this vast amount of census data, several important technical tools were developed for use with it. These include: (1) Geographic Base Files, often referred to as ACG-DIME Files, (2) ADMATCH, an ADress MATCHing program, and (3) GRIDS, a computer mapping program. The details of these technical tools are best left unexplained at this time; what is important, however, is that some of their basic power be understood.

Simply stated, these tools for manipulating data can:

* take any file of individual records with house addresses and assign census geographic codes to those records.

* take any file of individual records with geographic coordinates and produce computer drawn maps.

Now, on the surface, that doesn't sound all too impressive. But let's pose a few questions that this system can help to answer, so that you may get some feeling for the uses of the system. Basically, these questions have three aspects regarding them and they require that the researcher be able to answer: (1) where do his clients come from, (2) what is it about them that makes them special, and (3) why are they important to him.

In the area of Federal Fund Raising we can ask:

* What is the real service area of the institution?
* What are the income ranges that can be associated with its students?
* How many of its students live in specially funded areas such as model cities and model neighborhoods?

In the area of Curriculum Design it is important to know:

* How many students living outside the normal service area travel to this institution for special courses?
* What are the socio-economic characteristics of these students exerting extra effort?
* How well do the college's curriculum relate to that of high schools producing most of its students?

In the area of Recruitment counselors are concerned with:

* From what part of the real service area do most of the adult students come from?
* What classes do these adult students take?
* Where should we look to find more of these adult students?

In the area of Community Impact, school planners question:

* How well does the service area relate to other special governmental areas?
* How often does the college coordinate community impact programs with those initiated by other agencies for a given area?
* How well does the college respond to stated and measured community needs?

This system is able to provide information and in some cases answers regarding these questions by providing the researcher with new methods for gathering large amounts of data quickly and providing him with means for using it efficiently. It should be pointed out that all of these techniques are quite new and their uses are not yet fully documented, although their use has been established in other areas of government and private industry.

Four major steps are involved in establishing this system to insure its use and application in the major areas of administration, institutional research, school facility and program planning, and evaluation. They are:

* Obtain the necessary data manipulation programs and files.
  1. Local urban area ACG-DIME Geographical Base File or other street reference guide
  2. ADMATCH DOS or OS Version
  3. GRIDS or other mapping program
  4. Local urban area geographic coordinate file
  5. Basic Student Data Files with house addresses

* Get programs and data files established and running at subject college and establish liasion with key governmental groups.
  1. Regional Information Group (RIG)
  2. Council of Governments (COG)
  3. County or Regional Planning Commission
  4. Local City Planning Department
  5. Local School Districts

* Investigate possible research application areas at subject college (e.g.).
  1. Federal Fund Raising
  2. Curriculum Design
  3. Recruitment
  4. Planning and Evaluation
  5. Community Impact

* Conceive, design and implement pilot project.
  1. ADMATCH Records
  2. Relate to Data
  3. Analyze Data
  4. Map Results
  5. Produce Report

Additional technical documentation describing this system and its uses can be found in the following three reports.

(1) Urban Analysis: A Scientific Process to Determine Where the Budget Should be Spent.

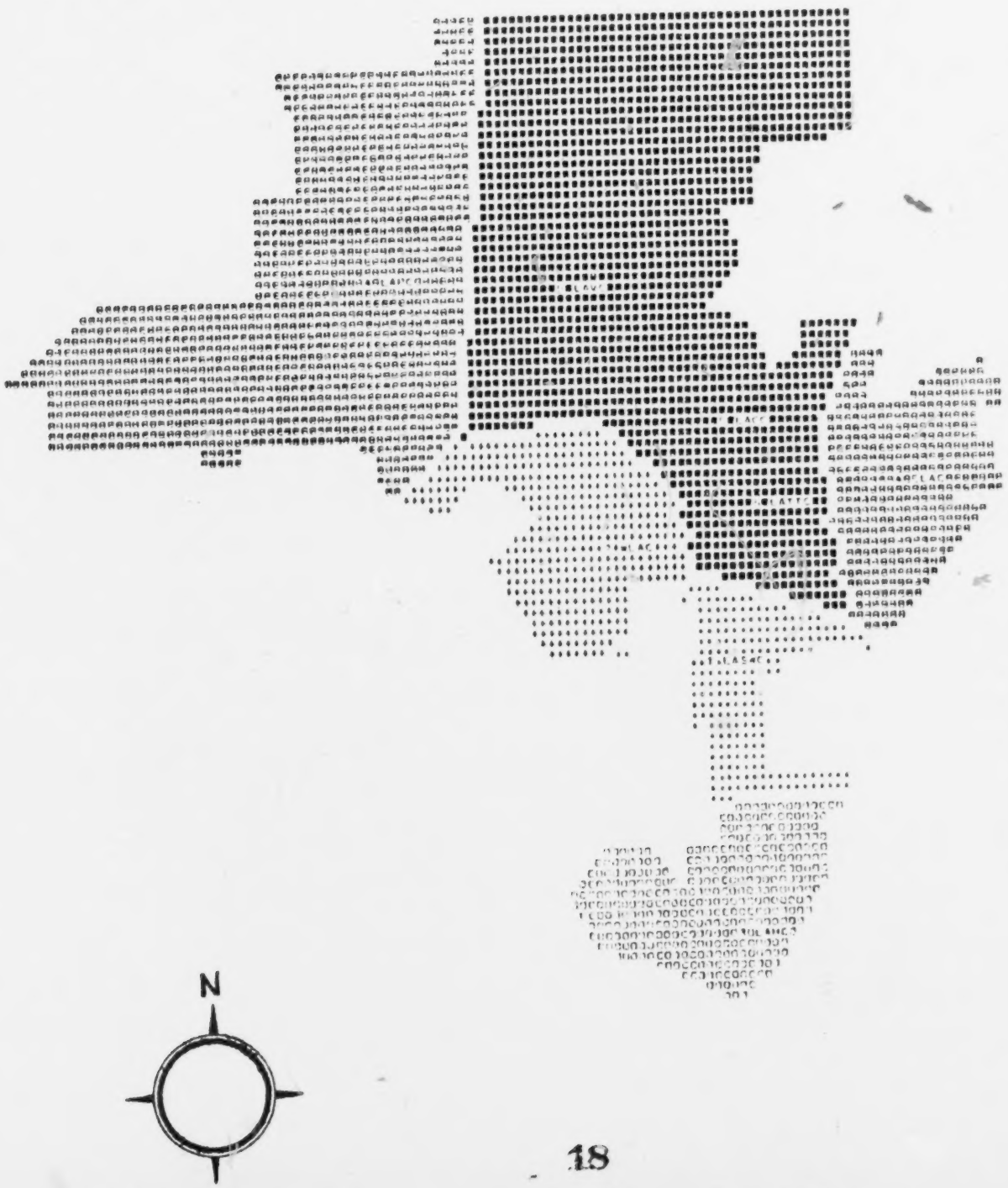
(2) Index of Effort: A Guide to Recruitment Activities.

(3) A Model for Extending the Concept of Environmental Cause from a Sample Population to a Universe of Community College Students.

LOS ANGELES COMMUNITY COLLEGE DISTRICT

PERCENTAGE OF STUDENTS ENROLLED BY INDIVIDUAL COLLEGE

SPRING, 1970



LOS ANGELES COMMUNITY COLLEGE DISTRICT

Percentage of Students Enrolled by Individual College, Spring, 1970

DATA VALUE EXTREMES ARE 3.00 20.00

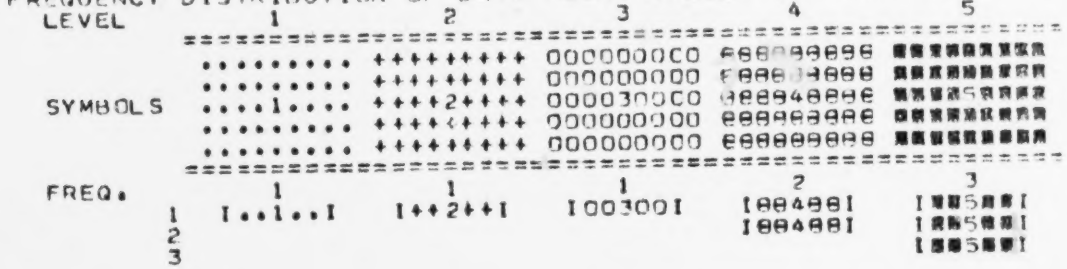
ABSOLUTE VALUE RANGE APPLYING TO EACH LEVEL
('MAXIMUM' INCLUDED IN HIGHEST LEVEL ONLY)

MINIMUM	0.0	4.00	8.00	12.00	16.00
MAXIMUM	4.00	8.00	12.00	16.00	20.00

PERCENTAGE OF TOTAL ABSOLUTE VALUE RANGE APPLYING TO EACH LEVEL

	20.00	20.00	20.00	20.00	20.00

FREQUENCY DISTRIBUTION OF DATA POINT VALUES IN EACH LEVEL



TIME = 0.0